

Notice of Allowability

Application No.

10/537,490

Examiner

Tuan H. Nguyen

Applicant(s)

FUKUDA, KUNIO

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/03/2005.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 06/03/2005 has been considered by Examiner and made of record in the application file.

Reasons For Allowance

2. Claims 1-14 are allowed over the prior art record.
3. The following is an examiner's statement of reasons for allowance:
Tanaka Hiroaki et al. (Japanese Publication number: 10-145103 herein after, "Tanaka") teaches the quadrature modulation machine which used 4 phase converter and this especially 4 phase converter used for a QPSK modulation, and the quadrature modulation machine using this.

Fujita Taku et al. (Japanese Publication number: 2001-024549 herein after, "Fujita") teaches a microwave signal generated from a signal source of an interrogator is modulated by a modulation part and distributed to the transmitting side and the receiving side by a distribution circuit and the transmitting side signal is transmitted from an interrogator side antenna. The transmitted microwave signal is received by a responder side antenna, ASK-modulated by a control signal outputted from a control

part and transmitted to the interrogator through the antenna. The transmitted microwave signal is received by the antenna, distributed to the receiving side through a branching filter, demodulated by a received signal demodulation part and processed by a data processing part, and the processed data are read out from responders.

Greeff et al. (U.S PUB. 2001/0001758 hereinafter "Greeff") teaches a backscatter communication system includes an interrogator including a transmitter configured to output a forward link communication and a receiver configured to receive a return link communication having a carrier signal, the receiver being configured to reduce the amplitude of the carrier signal of the return link communication; and a communication device configured to modulate the carrier signal to communicate the return link communication responsive to reception of the forward link communication.

Consider claims 1-6 and 8-13, the prior art made of record, alone or in combination, fails to clearly teach or fairly suggest a wireless communication apparatus for performing data communication under a back scattering system using reflection of incoming radio waves, said wireless communication apparatus comprising a data transmission unit comprising: an antenna for receiving an incoming radio wave from a data transfer destination; as many as n signal channels wherein a k -th signal channel gives a phase difference of $(k-1) \cdot \lambda / 2 \cdot \sin \theta$ for one-way wave passage therethrough, where $1 \leq k \leq n$; and reflected wave forming means for forming reflected waves with as many as n different phases, by selecting any one of said signal channels in keeping with outgoing data; wherein said data transmission unit forms said outgoing data using a phase difference pattern of said reflected waves with regard to

Art Unit: 2618

said incoming radio wave, in combination with other limitations, as specified in the independent claim 1, and further limitations of their respective dependent claims 2-6, and 8-13.

Consider claim 7, the prior art made of record, alone or in combination, fails to clearly teach or fairly suggest a wireless communication apparatus for performing data communication under a back scattering system using reflection of incoming radio waves, said wireless communication apparatus comprising a data transmission unit comprising: an antenna for receiving an incoming radio wave from a data transfer destination; a first reflected signal channel made of a first radio frequency switch; a second reflected signal channel made of phase modulating means giving a phase difference of $\lambda/8$ and a second radio frequency switch; serial/parallel converting means for converting outgoing data from serial form into a parallel signal; and synthesizing/distributing means for distributing said incoming radio wave coming from said antenna to the reflected signal channels and for synthesizing outputs from said reflected signal channels; wherein activation and deactivation of each of said radio frequency switches are controlled using two data items constituting the data having undergone the serial/parallel conversion, so that said data transmission unit forms said outgoing data using a phase difference pattern of the reflected waves with regard to said incoming radio wave, in combination with other limitations, as specified in the independent claim 7, and further limitations of their respective dependent claim 14.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

Art Unit: 2618

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. Any response to this action should be mailed to:

Mail Stop_____ (Explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

(571) 273-8300

Hand-delivered responses should be brought to:

Customer Service Window

Randolph Building

401 Dulany Street

Alexandria, VA 22313

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan H. Nguyen whose telephone number is (571) 272-8329. The examiner can normally be reached on 8:00Am - 5:00Pm.

Art Unit: 2618

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Maung Nay A. can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information Consider the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan Nguyen *T.N.*
Examiner
Art Unit 2618

Lana N. Le
1-03-07
LANA LE
PRIMARY EXAMINER